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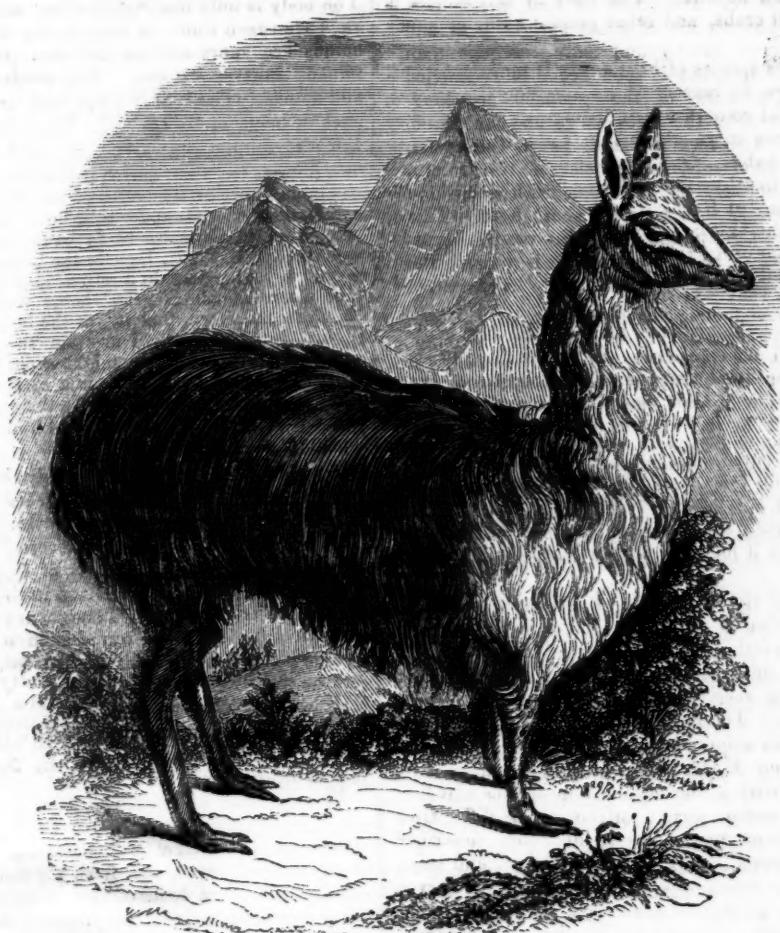


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19TH, 1844.

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WOOL-BEARING ANIMALS OF PERU AND CHILI.



SPECIMEN EXHIBITED IN LONDON IN 1817.

I.

AMONG the mountains of Peru and Chili there exist several species of wool-bearing animals, so hardy in their nature, so valuable as to the quality of their fleeces, and at the same time so gentle and tractable in their dispositions, that they are at the present time engaging much of the attention of scientific men, and of agriculturists in general, who in some cases have proved the possibility of rearing them in this country, and of obtaining from them a very superior quality of wool.

On the first invasion of Peru and Chili by the Spaniards, the natives of those countries were found to be in possession of animals bearing some resemblance to camels, but much more lively and active in their habits, and also destitute of the hump on the back. They appeared, indeed, to be intermediate between camels and sheep, and were called by the Europeans who first noticed them "country sheep." Large flocks of these animals were reared by the mountaineers of various tribes, subject to the dominion of the Incas. Some of these animals were domesticated, and employed

as beasts of burden. Augustin de Zarati, treasurer-general of Peru in 1544, described these sheep as follows: "The sheep of Peru are so large that they are employed as beasts of burden. They can carry upwards of a hundred pounds weight, and the Spaniards sometimes ride them four or five leagues a day. When they are weary they lie down upon the ground, and there is no possibility of making them get up, either by beating or assisting them, until the load be taken off. When a rider on one of these animals urges him beyond his strength the beast turns his head round, and discharges his saliva, which has an unpleasant odour, in the rider's face. These animals are of great use and profit to their masters, for their wool is very good and fine, particularly that of the species called *Pacas*, which have very long fleeces, and the expense of their food is trifling, as a handful of maize suffices them, and they can go four or five days without water. Their flesh is as good as that of the fat sheep of Castile. There are now public shambles for the sale of their flesh in all parts of Peru."

From this account it appears that more than one kind of these animals was known to the Spanish settlers.

Indeed the descriptions of the several species had become confused, and there is still much difficulty in ascertaining how many they are, and what are the differences between them; but it is generally believed by naturalists, that there are really only three species, all of which are comprehended in the general term *Llama*; but are respectively distinguished as, 1. The *Llama*, called in the wild state *Guanaco*; 2. The *Alpaca*; 3. The *Vicugna*.

Of the wild *Llama*, or *Guanaco*, we shall first speak. This animal bears a general resemblance to the camel, but on a smaller scale, and without the heavy patient look of that creature. It carries its head nearly perpendicular, and has an air of great sprightliness and activity. It is more slender and more energetic than the domesticated *llama*, but it soon becomes reconciled to captivity. The ears of the *guanaco* are long, pointed, and moveable, the eyes large and animated, the nose small. The toes are not, as in the camel, united by a common sole, but consist of two rough, springy toes, completely divided, each with a cushion beneath, and provided with a strong short hoof. This hoof is pointed at the tip, and hooks downwards, somewhat like a claw. The upper surface is ridged, the under concave, thus adapting the animal to its mountain home.

During summer the *guanaco* inhabits the highlands of Peru and Chili in large herds. In winter these herds descend to lower ground, and become the objects of the hunter's toil; but it is only the young and the feeble that can be taken by the hunters. They follow them with dogs, but the old ones are so swift and vigorous that they easily escape. During the chase they often turn upon their pursuers, neigh loudly, and then renew their flight. In the interesting account of this animal given by Mr. Darwin, (*Voyage of the Beagle*), it is stated that the *guanaco* abounds over the whole of the temperate parts of South America, from the wooded islands of *Tierra del Fuego*, through *Patagonia*, the hilly parts of *La Plata*, Chili, and to the *Cordillera* of Peru. Although preferring an elevated site, these animals were also seen in great numbers on the plains of Southern *Patagonia*. They generally go in small herds of from half a dozen to thirty together, but on the banks of the St. Cruz a herd of at least five hundred was observed. They were found to be very numerous on the northern shores of the Straits of Magellan. They are wild and extremely wary: the first notice of their being in the neighbourhood is often given by "a peculiar shrill neighing note of alarm;" and an attentive examination of the distant hills reveals a herd, standing in a line, on their watch against an enemy. On approaching the hill, they set off at a quick canter along some beaten track, and are soon out of sight; but if a traveller come suddenly on a solitary *Guanaco*, the animal will generally stand motionless, intently gazing upon him. "What is the cause," says Mr. Darwin, "of this difference in their shyness? Do they mistake a man in the distance for their chief enemy, the *puma*, or does curiosity overcome their timidity? That they are curious is certain; for if a person lies on the ground, and plays strange antics, such as throwing up his feet in the air, they will almost always approach by degrees to reconnoitre him. It was an artifice that was frequently practised by our sportsmen with success; and it had, moreover, the advantage of allowing several shots to be fired, which were all taken as parts of the performance. On the mountains of *Tierra del Fuego*, and in other places, I have more than once seen a *guanaco*, on being approached, not only neigh and squeal, but prance and leap about in the most ridiculous manner, apparently in defiance, as a challenge."

In many of their habits the *guanacos* are compared to a flock of sheep. If they see their enemies approaching in different directions, they are bewildered and know not which way to run. They take to the water readily, and swim from island to island: in some

cases they have been seen to drink salt water. Two very curious circumstances are mentioned with respect to this animal. The first is spoken of as common also in the other species of this genus; it is the habit which the *guanacos* have of dropping their dung on successive days in the same defined heap; Darwin says that he saw one of these heaps, and found it to be eight feet in diameter. This habit is a great accommodation to the Indians, who use the dung as fuel, and who are thus saved the trouble of collecting it. Another remarkable fact is that the *guanacos* seem to have favourite places for dying in. "On the banks of the St. Cruz," says the writer above quoted, "the ground was actually white with bones in certain circumscribed places, which were generally bushy, and all near the river. On one such spot I counted between ten and twenty heads. I particularly examined the bones; they did not appear as some scattered ones which I have seen, gnawed and broken, as if dragged together by some beasts of prey. The animals must have crawled, before dying, beneath and among the bushes. Mr. Bynoe informs me, that, during the voyage, he observed the same circumstance on the banks of the Rio Gallegos. I do not understand the reason for this, but I may observe that all the wounded *Guanacos* at St Cruz invariably walked towards the river. At St. Iago, in the Cape de Verd Islands I remember having seen, in a retired ravine, a corner under a cliff where numerous goats' bones were collected; we at the time exclaimed, that it was the burial-ground of all the goats in the island. I mention these circumstances because, in certain cases, they might explain the occurrence of a number of uninjured bones in a cave, or buried under alluvial accumulations, and likewise the cause why certain mammalia are more commonly embedded than others in sedimentary deposits."

The food of the *guanaco* is simply the coarse rushy grass of its native mountains, and when it can obtain a sufficiency of this green food it is never known to drink. It is supposed that the copious secretion of saliva in this animal, obviates the necessity of frequent drinking, but that it does occasionally refresh itself with a draught there can be little doubt. Though not disposed to be pugnacious, the *guanaco* can defend itself well in an extremity; it will strike with its fore-feet and give very severe blows.

The wool of this animal is of a fine texture; the general colour is a handsome rufous brown, but the head and ears are grey.

The domesticated *llama* was not only the general, but the *only* beast of burden in Peru and Chili, before the conquest of those countries by the Spaniards. One of the labours to which this animal was subjected, was that of bringing down ore from the mines among the mountains. With a load of this description, weighing about a hundred pounds, the *llama* would travel over the rugged mountain passes at the average rate of from twelve to fifteen miles a day. Gregory de Bolivar considered that no less than three hundred thousand *llamas* were thus employed in his day for the conveyance of ore from the mines of Potosi alone, and he reckoned the number of these animals killed for food at four millions annually. Thus the *llama* was a very profitable animal, whether for labour or as food; its hide also was converted into leather, and its wool into cloth. The increase of horses in Peru and Chili, and the use of mules by the mountaineers, have diminished the number and importance of the *llamas* as beasts of burden, but the value attached to their wool, and to that of the kindred species, is higher than ever.

According to Baron Humboldt, the specific characters of the *llama* are not easily marked with precision, because, in a domestic state, several breeds are reared, among which the original type is more or less disfigured. A *llama* of the largest breed is described as being about four feet four inches at the shoulder, above five feet from the breast to the tail, and from the ground to the top of the head nearly six feet. There are, however, much smaller breeds than this, and the specimen

minutely described by M. F. Cuvier did not reach three feet in the height of the shoulder. This individual was a male of a brown colour, the face white, with dark spotted nose and mouth, a spot before and one behind the eye, extending to below the jaw. The throat was whitish and the neck grey. The joints of the fore-feet were white. These animals, however, vary much in their colour and markings. The wool is long, soft, and elastic on the neck, throat, body, rump, and tail, close and short on the head and limbs. Some remarkably fine specimens were exhibited in London in 1816 and 1817. Of these the fore parts of the body were pure white, the hinder parts of a deep purple brown. On the chin, neck, and throat was fine soft hair, which hung down below the knees like an apron, and had a beautiful silvery lustre. On the other parts of the body the fleece was more compact and woolly. These animals were exhibited under the name of alpacas, but their large size, and the presence of numerous callosities on the limbs, subsequently led to the opinion that they were llamas. We have given a representation of one of these animals (the female), as we find it in GRIFFITH'S *Cuvier*. In another article we shall give a particular description of the alpaca, and of the attempts which have been made to rear it in this country.

TURNIPS OF VAN DIEMEN'S LAND.

There is no climate or soil better calculated to grow turnips and fold sheep than Van Diemen's Land. I have seen turnips, grown on the farm of Mr. Bransgrove, on the banks of the Tamar, upwards of forty pounds weight, quite solid and close inside; and it has this peculiar advantage, that from the mildness of the climate, the turnips are never frost-bitten, and when even partly eaten by the sheep, they do not rot or become useless, as they do in less favoured climates. At present the farmers here have too great a range of pasture for their flocks, to turn their attention generally to folding; but as population becomes more dense, they will be compelled to recur to it: and it is the opinion of many intelligent farmers, that they could rear more sheep in this way, and feed them better, than by the present mode; and at the same time have much better crops of wheat and other farm produce.—MANN'S *Australia*.

HABITS OF WOLVES.

In well-inhabited countries, where wolves are an object of constant persecution, they never quit cover to windward; they trot along its edges until the wind of the open country comes toward them, and they can be assured by their scent that no suspicious object is in that quarter; then they advance, snuffing the coming vapours, and keep as much as possible along hedges and brushwood, to avoid detection, pushing forward in a single foray to the distance of many miles. If there be several, they keep in file, and step so nearly in each other's track, that in soft ground it would seem that only one had passed. They bound across narrow roads without leaving a foot-print, or follow them on the outside. These movements are seldom begun before dusk, or protracted beyond day-break. If single, the wolf will visit outhouses, enter the farm-yard, first stopping, listening, snuffing up the air, smelling the ground, and springing over the threshold without touching it. When he retreats, his head is low, turned obliquely with one ear forward, the other back, his eyes burning like flame. He trots crouching, his brush obliterating the track of his feet, till at a distance from the scene of depredation; when going more freely, he continues his route to cover, and as he enters it, first raises his tail and flings it up in triumph.

It is said that a wolf, when pressed by hunger, and roaming around farms, will utter a single howl to entice the watch-dogs in pursuit of him. If they come out, he will flee till one is sufficiently forward to be singled out, attacked, and devoured; but dogs in general are more cautious, and even hounds require to be encouraged, or they will not follow upon the scent.—COL. H. SMITH'S *History of Dogs*.

THE word *Profession* in our country has come to signify expressly that kind of business which deals primarily with men and men, and is thus distinguished from a *Trade*, which provides for the external wants or occasions of men.—

MAURICE DODD AND SONS, LONDON, 1879.

JAPAN AND THE JAPANESE.

II. JAPAN AND THE JAPANESE COSTUME. DWELLING-HOUSES. GARDENS. ANIMALS.

We stated, in a former notice on the present subject, that the Japanese are less uncomely in their personal appearance than the majority of the Mongolian race, to which they belong. Though not so strong as Europeans, they are described as generally well made, and having stout limbs. Their eyes show their Mongol origin, being small, and having an oblique position. Their hair is black, thick, and shining, and their noses, though not flat, are rather thick and short. The Dutch writers dilate complacently upon the beauty of the young women. The gait of both sexes is allowed to be awkward, and the women's the worst, in consequence of their bandaging their hips so tightly as to turn their feet inwards.

The ordinary dress of both sexes and all ranks is in form very similar, differing chiefly in the colours and the value of the materials. It consists of a number of loose wide gowns, worn over each other, those of the lower orders made of linen or calico, those of the higher generally of silk, with some family device woven or worked into the back and breast of the outer robe, and all fastened at the waist by a girdle. The sleeves are enormously large, and the portion that hangs below the arm is closed at the end, to answer the purpose of a pocket, subsidiary, however, to the capacious bodies of the gowns, and the girdles, wherein the more valuable articles are deposited; amongst these are squares of white paper, as substitutes for pocket-handkerchiefs, which, when used, are dropped into the sleeve, until an opportunity offers of throwing them away. This description applies to both sexes, but the ladies wear brighter colours than the men, and border their robes with gay embroidery or gold. Gentlemen wear a scarf over the shoulders; its length is regulated by the rank of the wearer, and serves in turn to regulate the bow with which they greet each other, inasmuch as it is indispensable to bow to a superior till the ends of the scarf touch the ground.

On occasions of full dress is superadded the garb of ceremony. It consists of a cloak of a specific form, thrown over the outer clothes, and a peculiar sort of trowsers, resembling a very full-plaited petticoat. The difference of rank is designated at all times by the wearing of swords. It would seem that the higher orders wear two swords, on the same side, and one above the other. The next in rank wear one, while to the lower orders a sword is strictly prohibited.

Within doors, socks are the only covering of the feet. Broad, shoes are worn, but of a most inconvenient kind. They are little more than soles, of straw matting and wood, mainly kept on by an upright pin, or button, held between the two first toes, which, for this purpose, are left to project through an opening in the sock. The difficulty of lifting a foot thus shod, in walking, may account for the awkward gait ascribed to the Japanese.

The head-dress constitutes the chief difference of costume between the sexes. The men shave the whole front and crown of the head; the rest of the hair, growing from the temples and back of the head, is drawn together, upwards and forwards, and so tied as to form a tuft on the bald skull. Some professions, however, deviate from the general fashion, physicians and Buddhist priests shaving off all the hair, while surgeons retain all their's, gathered into a knot at the top of the head. The abundant hair of the women is arranged into the form of a turban, and stuck full of pieces of fine tortoiseshell, fifteen inches long, of the thickness of a man's finger, highly wrought and polished. They are said to be extremely costly, and are the only trinkets worn. The more of them that project from a lady's hair, the better she is considered to be dressed. The face is

painted red and white; the lips purple, with a golden glow; in addition to this, the teeth of a married lady are blackened, and her eyebrows extirpated.

Neither men nor women wear hats, except as a protection against rain. The fan is deemed a sufficient guard from the sun, and this fan is always to be seen either in the hand or the girdle of every Japanese. Soldiers and priests are no more without their fans than fine ladies, who make of theirs the use to which fans are put in other countries. Amongst the men of Japan, it serves a variety of purposes; visitors receive upon their fans the dainties offered them; the beggar holds out his fan for alms. The fan serves the dandy in lieu of a switch; the pedagogue instead of a ferule for the offending school-boy's knuckles; and, not to dwell too long upon the subject, a fan, presented upon a peculiar kind of salver to the high-born criminal, is said to be the form of announcing his death doom: his head is struck off at the moment he stretches it towards the fan.

The Japanese towns are all regularly built, and as every house has its garden, large or small, they present a pleasing appearance. The houses are low, containing only one good story, to which is added in some a sort of cock-loft, in others a low basement. The height of the street front, and even the number of windows, are determined by sumptuary laws. All are constructed of wood, with a mixture of clay and chopped straw; but the walls are coated with a cement that gives them the appearance of stone. In the windows, very fine and strong paper, unoiled, and protected from bad weather by external wooden shutters, supplies the place of glass. The windows to the street are further provided with Venetian blinds, and every house is encircled by a verandah, into which all the rooms open.

The front of the better class of houses is occupied by a large portico and entrance, where the *norimonos*, or Japanese palanquins, the umbrella-hats, and shoes, are left, where servants and persons on business wait, &c.; and with which all the domestic offices are connected. The back of the house is the part inhabited by the family, and it projects triangularly into the garden, for the benefit of more light and cheerfulness. These gardens, however diminutive, are always laid out in the landscape garden style, with rocks, mountains, lakes, waterfalls, and trees, and uniformly contain a family chapel or oratory. We are told that the smallest habitations possess similar gardens in miniature, planted with full-grown trees, of various kinds, three feet high, with heads three feet in diameter; for the Japanese gardeners value themselves alike upon the art of dwarfing, and that of unnaturally enlarging, all vegetable productions. These dwarf-trees are reared in flower-pots, and when they bear luxuriant branches upon a distorted stem, the very acmé of perfection is attained; or, to speak more correctly, it might be supposed so, had not President Meylan, in the year 1826, seen a box, which he describes as one inch in diameter by three inches high, but which Fischer represents, somewhat less incredibly, as four inches long, one and a half wide, and six high, in which were actually growing and thriving, a bamboo, a fir, and a plum-tree, the latter in full blossom. The price of this portable grove was twelve hundred Dutch guilders, or about one hundred pounds.

To each Japanese dwelling belongs a detached store-room, or warehouse, in which are deposited all articles of superior value. These store-rooms are built of the same materials as the houses; but the whole wood-work, doors and roof included, is covered with a foot-thick coating of clay; the apertures for windows are closed with copper shutters; and a large vessel of liquid mud is always at hand, with which to smear over the building in case of danger; that is to say, in case one of the conflagrations for ever occurring amidst such combustible houses, should break out in the neighbourhood. These

fire-proof store-rooms answer their purpose extremely well.

The empire contains neither sheep, goats, swine, nor asses. Horned cattle are used in agricultural and other labour, but it would be thought an act of criminal ingratitude either to eat their flesh, or to rob their young of the mother's milk. The universal cultivation leaves little room for wild animals; deer, however, are found occasionally, supplying venison to the table; but the staple food of the inhabitants is fish. Foxes are found in the country, and being considered as emblems, if not incarnations, of the evil principle, are sedulously destroyed.

It may be added, that Japan is said to abound in cedar-trees, which rival in magnitude the far-famed cedars of Lebanon.

[Abridged from *Manners and Customs of the Japanese.*]

Books cannot always please, however good;
Minds are not ever craving for their food;
But sleep will soon the weary soul prepare
For cares to-morrow that were this day's care:
For forms, for feasts, that sundry times have past,
And formal feasts that will for ever last.

But then from study will no comforts rise!
Yes! such as studious minds alone can prize;
Comforts, yea!—joys ineffable they find,
Who seek the prouder pleasures of the mind:
The soul collected in those happy hours,
Then makes her efforts, then enjoys her powers;
And in those seasons feels herself repaid,
For labours past and honours long delay'd.

No! tis not worldly gain, although by chance
The sons of learning may to wealth advance;
Nor station high, though in some favouring hour
The sons of learning may arrive at power;
Nor is it glory, though the public voice
Of honest praise will make the heart rejoice:
But 'tis the mind's own feelings give the joy,
Pleasures she gathers in her own employ—
Pleasures that gain or praise cannot bestow,
Yet can dilate and raise them when they flow.—CRABBE.

WHAT is there in man so worthy of honour and reverence as this,—that he is capable of contemplating something higher than his own reason,—more sublime than the whole universe; that Spirit which alone is self-subsistent,—from which all truth proceeds,—without which is no truth.—F. H. JACOBI.

WHEREVER, O man, God's sun first beamed upon thee,—where the stars of heaven first shone above thee,—where His lightnings first declared His omnipotence, and His storm-wind shook thy soul with pious awe,—there are thy affections, there is thy country.

Where the first human eye bent lovingly over thy cradle,—where thy mother first bore thee joyfully on her bosom,—where thy father engraved the words of wisdom in thy heart,—there are thy affections, there is thy country.

And though it be among bare rocks and desert islands, and though poverty and care dwell there with thee, thou must love that land for ever; for thou art man, and thou canst not forget it, but it must abide in thine inmost heart.

And freedom is no empty dream, no barren imagination; but in her dwell thy courage and thy pride, and the certainty that thou art of high and heavenly race.

There is freedom where thou canst live according to the customs, and fashions, and laws of thy fathers; where that which rejoiced their hearts rejoices thine; where no foreign oppressor can command thee, no foreign ruler drive thee at his will, as cattle at the will of their driver.

This thy country—thy free country—is a treasure which contains within itself indestructible love and faith; the noblest good (excepting religion, in which dwells a still higher freedom) that a virtuous man can possess, or can covet.—ARNDT.

VEGETABLE PARASITES.



I.

THE DODDER. (*Cuscuta Europaea*.)

THE term *parasite*, as applied to an individual among mankind, is well known to mean a person who lives idly at the expense of others, or, as Dr. Johnson explains the word, "one who frequents rich men's tables, and earns his welcome by flattery." Such characters deservedly earn the disesteem and contempt of their fellow men, and are spoken of by our poets and our prose writers in terms of equal scorn. To cite but one,—Shakspeare calls them,

Most smiling smooth detested parasites,
Courteous destroyers, affable wolves, meek bears.

The name thus conferred, by way of reproach, on fawning sycophants, has also been given as characteristic of the qualities of certain plants, which, instead of drawing their nourishment from the earth, and maintaining a separate and independent position among their brethren, do most unmercifully (as it would seem) prey upon the tissue of other plants, and derive their subsistence from the juices which have been elaborated by them. These vegetable parasites cling most perseveringly to the stem or branch in which they have taken root, and where this is of a weakly description, they often destroy it entirely. Thus if we endow the vegetable parasite with motives and feelings, it must be allowed that it equals the most cruel of its human namesakes in the merciless nature of that selfishness, which preys on another even to death.

The parasites among plants are most numerous in tropical regions, where a single tree is often seen presenting various kinds of foliage, from the number of these intruders that have planted themselves in its bark, and are luxuriating at its expense. In Britain we have very few species; indeed, botanists admit of only three true parasites among our native plants. These it is our object on the present occasion to describe.

Of these the most curious is the common dodder (*Cuscuta Europaea*), of which the ignorant of former days seem to have entertained an almost superstitious hatred. Threlkeld describes it as "a nonpareil, having no leaves, but red threads;" and adds, "after it has fastened its clasps or small tendrils upon a plant, as line, thyme, nettle, madder, or such like, it quits the root, and, like a coshering parasite, lives upon another's trencher, and, like an ungrateful guest, first starves and then kills its entertainer: for which reason, irreligious clowns curse it by the name of hell-weed, and devil's-guts, in Sussex." Gerarde also describes it as "a

strange herbe, altogether without leaves or roote, like unto threads very much snarled, or wrapped together, confusedly winding it selfe about bushes and hedges, and sundrie kindes of herbes."

Plants of this genus are common in most temperate climates, but are happily not very frequently met with in England. Where they abound to a considerable extent, they are very destructive to green crops, attacking the different leguminous plants, and multiplying with singular rapidity. The dodder is entirely leafless, but has on the stem some almost imperceptible scales. It also bears clusters of small white blossoms, bell-shaped, and followed by membranous capsules, which drop their seeds, four in number, into the soil. The growth of the dodder commences, like that of other plants, in the soil, and without requiring the presence of other vegetables; but the plant soon betrays its parasitic nature, for if the little thread it first puts forth should happen to issue from the earth at a place where no other plant is growing, it immediately dies away, as if wholly unable to endure the fatigue of seeking nutriment for itself; but let a suitable living plant be near, and the dodder is not slow in laying hold of and surrounding the stem. It then sends out hollow tubercles or suckers, which pierce the bark and suck the juices from the victimised plant, which passively yields up the food it had elaborated for its own support. Nor is this uninvited guest to be easily got rid of. While it rose from the earth dependent on its own root for support, the dodder had a simple upright growth; but now, having grasped its prey, it winds about the plant in all directions, and even darts from one plant to another, especially as the first becomes exhausted beneath its systematic attacks. A very singular fact is it, that when once the dodder finds itself established on a plant, it quits its own root altogether, (which becomes obliterated, and dies,) and lives from that time forward by its suckers only. Certainly one cannot fail to be struck with these points of analogy between the vegetable and the human parasite. In the latter, the individual at first, perhaps, rests on his own industry, and being contented with his lot, maintains a simple and upright deportment; but having once lost his independence, and begun to lean on others for support, he maintains his position at the expense of his uprightness, and winds and turns to accommodate himself to the circumstances which may best promote his selfish ends. Having established him self securely as a hanger-on, he easily throws off his early habits and his home, and begins to adopt a more luxurious mode of living. Impoverishing, perhaps, the very persons to whom he owes his present exaltation, his next care is to use such arts as may gain him entrance to another family, more wealthy, but as easily duped as the former.

The dodder is not very particular in its choice of a plant that may serve for its foster-parent; heath, furze, broom, or thistles, are made to serve this purpose; and if accidentally introduced into green-houses, it will riot among the choicest plants just as luxuriantly as on the commons and waste places, where (in England) it is mostly found. The dodder is sometimes raised as a curiosity: seeds are sown in pots, and when the seedlings come up they are placed by the side of some soft-wooded worthless plant, which they soon lay hold of and cover, extending to a considerable distance around, unless prevented.

De Candolle says that the seeds of these plants often germinate before they quit the capsules, in which case the plant immediately becomes a parasite; this is particularly noticed in a species that attacks the vines of Languedoc. The French cultivators call the dodders *teigne, rache, perruque, &c.*, and consider them as fatal enemies in their fields, for they destroy their leguminous plants, either by depriving them of nourishment, or by choking them with their rapid growth. The rapidity of

vegetation makes it difficult to check their progress, especially as their seeds are very abundant, and possess the double power of germinating in the ground or in the capsule. Some fields on the Continent have been pretty well freed from this enemy, by perpetually breaking and dividing their stalks with a rake; but this can scarcely be done without destroying or greatly injuring the crop. De Candolle recommends, as the only real effective method of getting rid of this troublesome weed, to mow such portions of the crop as are infested with it, before it has had time to perfect its seed; and if there is reason to fear that these have been already deposited in the soil, then to replace the infested crop by corn or grasses, which do not nourish the dodder. Thus when the seedlings came up, not finding any plant that could support them, they would all, according to their natural habit, die away. If the dodder appears in fields of flax, the plants must be cut down, or rooted up; and if it appears among vines, the branches must be cut before the seed is matured. Where the seed of the dodder has become mixed with that of trefoil, lucerne, or other plants, it is a good plan to sift the whole in a fine sieve, when the dodder, being smaller than the rest, will pass through, and leave the other free. In this operation, it is necessary to shake the sieve violently, that the capsules of the dodder may be broken, and the seed pass through.

Some years ago, the dodder was a very frequent inhabitant of the flax fields of Shropshire, and the neighbouring counties of Wales. It was also rather abundant in Somersetshire, in the shires of Argyle and Dumfries, and in the west of Ireland. In some parts of Somersetshire it goes by the name of "the mulberry," from a fancied resemblance of its cluster of pale pinkish flowers to that fruit in an unripe state. In the west of Ireland it is known simply as "the parasite plant." In 1836 some flax seed, received at the port of Mayo, from Odessa, was found grievously infested with this parasite, which came up with it, and generally effected the entire destruction of the crop. It is stated that the seed obtained from America, or from Riga, is wholly free from dodder, but that from Odessa is frequently infested with it.

There is another species of dodder (*Cuscuta epithymum*), very similar in growth, appearance, and properties, to the former, but smaller in size. These two plants, together with the mistletoe, form the three real parasites mentioned at the commencement of this notice. It may appear to many persons that the number is much greater, for there are numerous lichens, and fungi, that exist on trees and vegetables; and there is also the curious *orobanche*, infesting the roots of the clover. But among botanists, lichens, &c., are banished from the list of true parasites, because they derive their nourishment, not from the essential juices of the tree, but from decaying portions of the bark, and more especially from the atmosphere. Where injury is inflicted by such plants, it is so small as to bear no comparison with that inflicted by the true parasites; but in the great majority of cases, the lichen, adhering to the bark of a majestic tree, has merely the effect of adding to its picturesque appearance, and cannot be considered in any degree detrimental to it. Again, with respect to the *orobanche* and other plants that appear to prey on the roots of vegetables, it is rather to secure shade and shelter, which their nature demands, that they come up in such situations, than from any necessity of seeking sustenance from other plants. This will be evident if we examine the scaly or bulbous roots, which are given for the nourishment of these so-called parasites.

We must reserve to another occasion an account of that most interesting of parasites, the mistletoe; but as the time draws on when the summer's glow will have passed away, and when trees, denuded of their brilliant attire, will begin to exhibit their parasitic guests more strikingly than when clothed with leaves, it will be well

to notice the beauty which these frequently impart, and the venerable appearance they often give to the aged inhabitants of the forest.

Is there, the naked wood who deems
A dead blank prospect? Yet methinks,
'Tis but a dull incurious eye,
Which on the vast variety
Can cast a casual glance, and sees
No interest in the wintry trees,
And 'tis an inconsiderate mind,
To nature's works and wonders blind,
Which scans the brethren of the glade,
Tho' of their vesture disarray'd,
And there discerns not sign on sign
Of heavenly wisdom, power divine!

MANT'S British Month.

ANCIENT AGRICULTURE IN SCOTLAND.

UNDER a poor system of agriculture, only the good land was cultivated, and a large section of the country was of no use to man or beast, further than affording refuge to tribes of wild animals. In former times, live stock were either kept on such a limited scale as to render their amount of winter provender easily attainable, or they were half-starved for several months while the inclement season lasted. In some districts, where the culturable land was entirely and necessarily occupied with corn-crops, food for horses and cattle was even of difficult attainment during summer. As an instance of this poverty in the general produce, it is mentioned that, as late as the year 1756, when a land-proprietor in the Carse of Gowrie was showing a friend over his grounds, he pointed out a number of servants employed in pulling weeds from a field of corn, and at the same time expressed his gratitude to Providence for raising such a quantity of thistles, "as otherwise," he continued, "how could we, in this district, where we cannot allow our good corn-land to be in pasture, find summer food for our working horses?" The district here referred to is now one of the most beautiful and generally productive of any in the country.—JACKSON on Agriculture.

DARWIN remarks, that we are less dazzled by the light at wakening, if we have been dreaming of visible objects. Happy are those who have here dreamed of a higher vision! they will the sooner be able to endure the glories of the world to come.—NOVALIS.

WHALES MISTAKEN FOR ROCKS.

CAPTAIN KING, of His Majesty's ship "Adventure," says: "On the 1st of January, 1828, (in latitude 43° 17', and longitude 61° 9') I was informed that we were close to a rock. Upon going on deck I saw the object; but in a very short time I perceived it was a dead whale, upon whose half-putrid body large flocks of birds were feeding. Many on board were, however, sceptical, until, on passing to leeward, the strong odour testified the fact. Its appearance certainly was very like the summit of a dark brown rock, covered with weeds and barnacles, and the myriads of birds, which surrounded it, added to the deception. It could, however, be distinguished by its buoyancy; for the water did not break over it, as of course it would have done had it been a fixed body. Such is probably the origin of half the 'virgins' that are formed on the charts. Whales, when struck by the fishers, frequently escape, and perish; the carcase then floats on the surface of the sea, until decomposed, or eaten by birds and fishes. A small vessel striking against such a mass would probably be severely injured; and at night, the body, from its buoyancy, and the sea not breaking against it, would not be readily seen."

Captain Fitz-Roy, of the "Beagle," writes: "14th January, 1830. We were at this time running free, under treble-reefed topsails, with top-gallant yards and masts on deck; the wind being strong from west-north-west, but the weather tolerably clear. Suddenly the boatswain hailed, 'Hard-a-port—a rock under the bows!' Round the little vessel turned, almost as fast as the order was given; but the thrill that shot through us was happily not the precursor of our destruction; for the supposed rock proved to be a huge whale which had risen close to the bows, and was mistaken for the top of a rock by the boatswain, who was looking out on the forecastle, while I was at the mast-head, and the 'hands' were upon deck."—*Voyages of the Adventure and Beagle*.

THE ART OF READING.
INTRODUCTION OF THE PHONIC METHOD
INTO THIS COUNTRY.

THE results of the improved methods of imparting instruction, described in former articles, became at length so honourably conspicuous in many of the best schools of the Protestant states of Europe, that they could not fail to attract the notice of enlightened men in this country. The advantages which might be derived from the application of some of these methods to English education, appeared unquestionable; and in the *Minutes* published by order of the Committee of Council on Education in 1840, we find a distinct recognition of their value, and an announcement of an intention on the part of Government to make them known in this country. We have extracted a portion of this announcement, which relates to a better method of teaching reading.

The Committee of Council having recognised the general prevalence of the synthetic or constructive methods of instruction in elementary schools in Protestant Europe, have deemed it desirable to furnish the schoolmasters and promoters of schools in this country, with examples of the application of such methods to three departments of instruction, viz.—reading, writing, and vocal music.

The difficulty of teaching to read the English language by any clearly constructive process has frequently engaged the attention of persons who have written on this subject, and has been the object of many very ingenious methods, which, however, from their imperfection, have been only partially adopted.

Consequently, the masters of elementary schools have generally persevered in a purely dogmatic method of instruction in reading, exercising no faculty but that of memory, and requiring, from that faculty, exertions greater than are demanded at any subsequent period of instruction.

The difficulties experienced by all who have attempted to introduce more rational methods of teaching to read have arisen from the great variety of the sounds which are represented by the same signs in the English language, and the variety of the signs which are frequently used to denote the same sound. This complexity has appeared too great to be surmounted by any attempt to arrange the signs of sounds in a rational order, ascending from the simple to the complex. A proposal made by Mr. Edgeworth contained in it the principle which has been adopted with greater or less success in those countries in which elementary education has received the most skilful development, and it happily describes the common errors*.

In teaching a child to read, it is necessary first to teach him to recognise the simplest elements of sounds, and to show how they are combined to form the words with which he is familiar. In selecting words for this purpose the teacher is careful that they shall contain elementary sounds of the simplest kind, and in their simplest combinations, first—and then to proceed to those which present somewhat more difficulty.

The child is accustomed by frequent repetition to this reconstruction of words, thus analysed by the teacher. It acquires by degrees a knowledge of the simple sounds, and is enabled to recognise them in the words which it hears. It is thus prepared to understand that letters represent the sounds of which words are composed, and with many of which it has become familiar. The remaining difficulties would soon be surmounted if the sounds were all simple, and if they were invariably represented by the same letter, or if the same letter did not often represent more than one sound. Some of the radical sounds of the English language are, however, compounded of two simple sounds.

This complexity renders any Phonetic analysis of the language exceedingly difficult. The preface to WALKER'S *Pronouncing Dictionary* enumerates the chief varieties of sound which occur, and the various modes of representing them by letters; and at first sight it would appear rather to cause an increase than a diminution of the difficulties of teaching children to read, if all these varieties are to be distinguished in teaching. This would be true if the labour of the analysis had to be encountered by every schoolmaster, or if it were impossible to furnish him with a

* Practical Education, chap. ii., on Tasks, Vol. I. Analysis according to the sounds of which the spoken language is composed.

manual making him acquainted with the principles on which the analysis is conducted, and on which the instruction is to be communicated; and also (which is of pre-eminent importance) present him with lesson-books in which in each successive lesson the children advance from one combination or class of combinations to another, without having their reasoning powers distracted by the occurrence of varieties not referable to the same law, or with which they have not previously been made acquainted. By such means the schoolmaster may obtain, in a compendious and simple form, a clear view of the principles on which the Phonic combinations of the language depend. He may receive concise directions as to the extent to which it is necessary or desirable to make children acquainted with these principles, and as far as such instruction is desirable, with the method of conveying it. He is spared all the labour of analysis and arrangement, and he is only required to exercise persevering care and attention in communicating from day to day the lessons which succeed each other in the primers provided for that purpose.

Such a method recognises in the child a being whose reasoning powers are immature, yet a rational creature, whose memory may be most successfully cultivated when employed in subordination to the reasoning faculty. It depends to a large extent for its success on the truth that it is more difficult to remember contradictory facts (or those which seem so), than classes of consistent facts which express a rule or law satisfactory to the reason. In the former case, each fact has to be separately remembered, and the memory is therefore vexed with numerous independent efforts. In the latter, the pupil remembers classes of facts associated by some law more readily than he remembers the individual facts when presented to his mind without any attempt at arrangement. In the former case, the facts appear to be not merely separate, but contradictory; and in proportion as they are irreconcileable with any effort of the reason will they be difficult to remember. On the contrary to show to a rational creature the mutual relations and dependence of facts presented to its intelligence, is to afford the greatest assistance to the memory, by enabling it to associate these facts in consistent groups, under a comparatively small number of laws.

As an exercise, therefore, both of the memory and of the reasoning faculty, the constructive method of learning the phonic varieties of the English language is a means of cultivating the intelligence exceedingly superior to that which depends on the power of the memory to charge itself with the burden of facts, not only separate, but apparently contradictory.

For a child to commit to memory that which it cannot understand is a difficult and by no means a salutary exercise of the intelligence; but to conduct the instruction of a child not only without any attempt to cultivate its understanding, but to require it to charge its memory with facts which, because contradictory, must be repulsive to its reasoning powers, is worse than useless. By such means a child at an early period separates all ideas of pleasure from instruction. The tyranny of schools commences when any unreasonable effort is required. In this way, likewise, is repressed that earnestness which characterizes the early efforts of childhood. Its generous spirit can only be cherished by leading it from one truth to another, and not from one contradiction to another. The moral sense can only be successfully cultivated by inspiring the child in every process of education with a love of truth. The first step to this result is to satisfy the intelligence on every point which can be rendered clear. The means to this end are the arrangement of the facts presented to the mind of the child in such order that each new truth may naturally succeed, and be supported by those which have preceded it, so that the child may require neither any great effort of the intelligence to comprehend, or believe, or remember, that which it is the object of the master to teach.

By the opposite method schools are rendered repulsive to children. Their own efforts do not second those of the teachers, because they are required to do what is unreasonable. Then what cannot be secured by persuasion and gentleness is too often sought by ruder means. The fear of punishment, and the hope of reward take the place of the love of truth and the sense of duty; and the school degenerates from its resemblance to a well-ordered family, in which the most powerful agents are the conscience and mutual affections, into a little society where offences are repressed and obedience is encouraged—where the stimulus of emulation and the fear of correction are the chief agents

in securing that intellectual progress which becomes the main object of the school, though it is sought by means less efficient than those which are more consistent with the cultivation of the moral sense.

From the same source we learn, that the Committee instituted inquiries in Holland, Germany, and Switzerland, respecting the forms which the Phonic method assumed in those countries. These inquiries led to the selection of an individual, well qualified, for the important task of arranging the words of our language according to their phonic character. Mr. Senf, who has long been engaged in teaching on improved methods at an important scholastic establishment in Dresden, and who is also well and critically acquainted with the English language, was induced to visit this country; and with the sanction of the Committee, and under the superintendence of their Secretary, this gentleman devoted himself to the required task, with much assiduity during a period of three months. He then returned to Dresden, leaving the materials thus prepared, as the elements from which a series of lessons might be composed for the use of English schools. A source of difficulty in the preparation of these lessons is thus alluded to in the *Minutes* of the Committee of Council on Education.

In Germany, artificial combinations of letters are admitted into the lesson-books on the Phonic method, as the representatives of the combined sounds of the language, or parts of words are employed for this purpose. It was necessary in the preparation of the English Reading Book, to discard this means of representing these sounds, because, in our language, the same series of letters have frequently so different a value in different words. The difficulties of the analysis were greatly increased by the necessity of discarding this mode of representing combined sounds. The importance attached by Mr. Wood, of Edinburgh, to the use of words, instead of arbitrary combinations of letters (because he was thus enabled at the earliest stages to accustom the child to seek a meaning in everything that he read), formed another ground for refusing the aid of arbitrary combinations of letters, or using syllabic sounds separately from the words in which they occur. By using real words to represent the combined sounds, in their simplest as well as in their more complex forms, the examples given in the Reading Book are all consistent with the usages of the language, and the examples have a meaning which renders it easy to employ them, in lessons conducted on the interrogative plan of the Edinburgh Sessional School, as simple intellectual exercises. The examples of sound are therefore from the first, used in the exercises on reading which follow each group of words.

When the words used in successive lessons are thus confined to those which can be arranged in some Phonic variety, the accompanying lessons must be less free than if they had been, as is ordinarily the case, written without reference to these restrictions. The effort to reconcile the strictest adherence to the Phonic method with the intellectual method of Mr. Wood (shown in the Lesson-books of the Edinburgh Sessional Schools, and afterwards in those of the Commissioners of National Education in Ireland), greatly enhanced the difficulties of the work.

The relinquishment of either of these advantages appeared, however, to involve so great a loss, that it was deemed expedient to make a persevering effort to overcome these grave difficulties. The Phonic Reading Books, though small volumes, are the result of much labour, which, it is hoped, will be spared both to the teacher and the child.

If the analytical labour and the task of arrangement primarily confided to Mr. Senf, (under the superintendence above noticed,) were difficult, the subsequent steps in the preparation of the Phonic Reading Books were also attended with much labour; especially those which respected the formation of reading exercises to accompany each lesson. This task has been confided to Mr. Tomlinson, and is now completed, so far as it respects the First and Second Phonic Reading Books, lately published by Mr. Parker, under the sanction of the Committee of Council on Education. The remaining portions of the work are in progress, and will also shortly be published.

ABSENCE.

WHAT shall I do with all the days and hours
That must be counted ere I see thy face ?
How shall I charm the interval that lowers
Between this time and that sweet time of grace ?

Shall I, in slumber steep each weary sense,
Weary with longing ?—shall I flee away
Into past days, and with some fond pretence
Cheat myself to forget the present day ?

Shall love for thee lay on my soul the sin
Of casting from me God's great gift of time ;
Shall I these mists of memory locked within,
Leave, and forget, life's purposes sublime ?

Oh ! how, or by what means, may I contrive
To bring the hour that brings thee back more near ?
How may I teach my drooping hope to live
Until that blessed time, and thou art here ?

I'll tell thee ; for thy sake, I will lay hold
Of all good aims, and consecrate to thee,
In worthy deeds, each moment that is told
While thou, beloved one ! art far from me.

For thee I will arouse my thoughts to try
All heavenward flights, all high and holy strains ;
For thy dear sake I will walk patiently
Through these long hours, nor call their minutes pains.

I will this dreary blank of absence make
A noble task-time, and will therein strive
To follow excellence, and to o'ertake
More good than I have won, since yet I live.

So may this doomed time build up in me
A thousand graces which shall thus be thine ;
So may my love and longing hallowed be,
And thy dear thought an influence divine.

MRS. BUTLER.

The following occurrence shows the character of some, at least, of the inhabitants of the Chinese Seas in the brightest colours. A transport called the Indian Oak had been sent from Chusan with the letters of the expedition against China, and was unfortunately wrecked on the coast of the Great Loo-Choo, which island Captain Basil Hall describes in one of his books. Luckily for the wrecked mariners they fell into the hands of good Samaritans, for the kindness of the natives exceeded all that has hitherto been known. They stood on the beach ready to receive them with open arms, changed their dripping clothes for their own, brought them into their houses and fed them, and, not contented with this, wandered along the coast, endeavouring to pick up the articles washed from the vessel, returning them to the right owners, who all declare that they do not believe that a single nail of the vessel that was driven on shore was appropriated by a native without permission. Their greatest anxiety was to send home the remains to Queen Victoria, and at length they decided upon building a junk out of her relics to send to England, as they said to her Majesty. She came into Chusan, and seemed rather a pretty vessel, although the sailors had painted upon the stern the "Folly."—*Campaign in China*.

SONNET.—OCTOBER.

Ay thou art welcome, heaven's delicious breath !
When woods begin to wear the crimson leaf,
And suns grow weak, and the weak suns grow brief,
And the year smiles as it draws near its death.

Wind of the sunny South ! oh, still delay
In the gay woods, and in the golden air,
Like to a good old age released from care,
Journeying, in long serenity, away.
In such a bright, late quiet, would that I
Might wear out life like thee, 'mid bowers and brooks,
And dearer yet, the sunshine of kind looks,
And music of kind voices ever nigh.
And when my last sand twinkled in the glass,
Pass silently from men, as thou dost pass.

BRYANT.